/170 cont./

Modern Houses

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A Chiriguano house offers nothing special in appearance, but even those of the mestizos who have settled in their country are of the same form and not rarely worse, because naturally since the mestizo is not very fond of physical labor, because he is not an Indian, it is necesary for him to call on the energy of the latter, and the native is not always inclined to lend him this or that service, from which it follows that their houses are inferior (2). /Illustration appears here./

2. I am speaking here of the houses that the mestizos or whites build in the countryside where they live: in the towns their houses are normal: they almost all have tile roofs, and there are also some which are white-washed.

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/171/ House in the Chiriguano language is called Ho, which is different from what they call Tapi, hut. The latter are common in large towns and belong to the lazy people, wanderers, and even the poor. It must thus be understood that the construction of a Chiriguano house is a work of no small importance and care, if one considers that the Chiriguano is poor, so poor that he only has available an ax, a shovel, and a knife, and not always these. Because of the importance that I give to this construction, many who do not know these regions could believe that the houses are very fine, but there is nothing fine about them. None of them is beyond the rank of cabins.

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I believe that it is indispensable to describe the way of constructing them and the elements available to the Chiriguano in order to carry this out. If the Indian has some luck in sheep, he pays some of his companions with sheep so that they will help him gather the principal timber, and should this wealth be lacking, he begins to cut and strip back in the woods by himself, selecting timber of good quality, straight and resistant to the action of water. The principal pieces are generally six posts

[TEXT Continues on P. 235]

/171 cont./

342 335 476 574

which form the skeleton of the house, but where the forest is not tall and the trees slender, nine are needed.

Once the timber has been transported with the help of his companions and relatives and they have been treated with food and chicha, the day for setting up the house is set. The center posts are first placed, with the two holes being dug quite deep; next comes the placement of the four or six lateral ones, which are much shorter so that rain will not stay on the roof and there will not be continual and copious dripping. I measured several relatively new houses, and their pitch from the ground to the ridgepole is about 45 c/o in some and in others 35, it being possible to conclude that the average is 40 (1).

> 1. Chiriguano houses are rectangular with only one room, which, if it is very long, has in the middle another post which holds up the ridgepole so that it may not bend or break.

[178] This proportion is maintained today by the houses in Chiriguano towns, and it cannot be otherwise, because the roof is entirely of straw and the rain would stay on it if it did not have sufficient slope. Some who by mistake build them without this proportion realize at the time of the first torrential rains, and even more in the ones that follow, the mistake that they have made, but in vain, because /172/ it is very difficult for the Indian to correct his lack of foresight.

Once the skeleton of the house has been set up vertically, the rest is simpler to do, except for the placement of the ridgepole and the side beams: the latter can be cut in half to make it easier to move them, in addition to making finding them easier. The placement of these beams is followed by that of the rafters and the reinforcing pieces of wood to strengthen the walls. The rafters are tied with bejuco or with spiny ceiba bark, [824] which is called Samuu by the Indians and Toborochi by the whites.

000 /175 cont./
remains joined better and is more compact (1).

797 1. When a mission is founded, the first building is the mission house made in the usual way. But in the Potosí missions they are all of timber, and any traveler would marvel at their height and strength.

342 178 The ancient Chiriguano houses were of different form, and they were not alike in size or beauty in the towns. Some were distinguished by their roundness and conical form, and others because they were small and low. The latter had no importance at all and could scarcely even be called huts, in spite of the fact that, to the poor Chiriguano, dominated by his laziness, the smallness of a dwelling does not detract from its importance.

342 171 I am going to deal at some length with the way the houses of conical form were built, because they indicate skill on the part of the builder or because they make one's imagination take wing and fly to China, Africa, and Japan, where similar forms are found and thus make us ever more convinced of the unity of the human race.

As explorers, travelers, histories, and well thought out books say and as is also observed in the pictures of illustrated geographies, it is evident that in China, Japan, Africa, New Zealand, and in the east of Australia not a few of the inhabitants /176/ have houses in conical form.

This form seems to be the original one of the human race, and it is very probable that man has used it in the five parts of the world, since it is even found among the Chiriguano.

342 335 In fact, in order to construct a comfortable house before the Conquest, the clever Chiriguano used the following method. He first obtained a single post of some four or five meters and planted it at a depth of approximately one meter (1).

[476] [574] 1. For any small job for which the Indian must trouble his friends, he would get nothing without offering them a drink. Not even money is so esteemed and appreciated as chicha by the Chiriguano.

/176 cont./

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335 The post thus set up served as a central point for the new house; next he traced a more or less round circle without having any recourse whatsoever to the rules of theoretical geometry, being ignorant of its existence; nevertheless, his reason helped him enough. Having traced the circle and having secured ahead of time enough forked poles /horquillas/ some two meters high, he put them in holes some 50 or 60 centimeters deep around the circumference, leaving the entrance facing the plaza.

Once these poles have been well fixed in the ground around the center pole, the Indian, with the help of his companions and relatives, prepares rafters, straw, bejuco or ceiba bark, hollow cane or small sticks. He then begins, after an appropriate period of rest, to put in place first the rafters, tying them to each other, the center post serving as a prop, and then he ties them to the poles around the circumference, one to each pole, until he finishes. Before beginning, the precaution is taken of singeing the bejuco. The rest is done as has been described in the modern houses, but when the placing of the roof and the walls around are finished, the center post, which would only be an obstruction for the fire which is constantly burning in the center of the house, is removed (2).

[824] 2. Singed bejuco does not rot, regardless of the season in which it has been pulled up. It is resistant and is not attacked by the wood borer. Those who use it so much have experience.

[821] Everyone knows that conical houses are very solid, when care is taken to select good wood and /illustration appears here/ /177/ to cut it during the waning moon. If the rafters have the fork downward, conical houses are much more solid (1).

[554] 1. A house in conical form among the ancient Chiriguano indicated great ability on the part of the builder and status on the part of its owner; for this reason they were owned only by caciques, rich persons, and other important persons.

/16/

36| The town Ibitibi in the southern part of Chiriguano terri-
62| tory, south of the Pilcomayo River, examined minutely by
162 Eric v. Rosen, was inhabited, according to the Indians, by about 300 persons. The town was located on a plain surrounded by mountains and forests. The houses formed a large circumference, the cacique's house being in the middle. Some shade trees had been planted in the open plaza between the cacique's house and the other houses. In other Chiriguano towns visited by v. Rosen, houses were dispersed without any order. According to the observations of v. Nordenskiöld too, Chiriguano towns are sometimes quite large and inhabited by around 100 persons. Often several towns are near one another. The houses are generally around a plaza sometimes planted with trees and serving as a place to play and to hold meetings.

342 We know the form of the Chiriguano houses in detail through v. Rosen (63), and primarily through the good photo-

63. Eric v. Rosen, op. cit., p. 191; Figs. 189-192 and 217.

• [335] graphs of such houses. The houses are rectangular and their roofs end in points. Walls and roofs are held up by posts. The walls consist either of only vertical poles made from branches or reeds, close together and tied by horizontal ligatures, or of interwoven poles whose interstices are plastered with mud. The roof (opitiá) is covered with straw. One type of house was illustrated in a photograph by v. Rosen (64), on which one

64. Eric v. Rosen, op. cit., Fig. 190.

[171] side of the roof projects at the top over the other side of the roof. The same house type also exists in the ancient culture of the Peruvians, as is shown by sketches found on the surface of ancient Peruvian vessels.

/16 cont./

342 A special feature of Chiriguano houses and where they differ from those of the common ranchos of white residents is that the two oblique sides of the roof descend almost to the ground, passing far beyond the wall. Machareti houses also show this special feature. (Cf. Fig. 16 /see p. 40/.) The result of this roof construction is that the entrance (Ikye) is on the gable side. To shut the entrance they use reed mats or cowhides (65). Widely influenced by the whites, the Chiriguano

65. Métraux I, p. 469.

and the Chané continually vary the style of their houses, and, according to Nordenskiöld (66), today many of them are already building houses identical with those of the whites.

66. Nord. 1, p. 173.

343 In addition to the houses used for dwellings, the Chiriguano and some of the Chané have houses built on posts for storehouses (avatió). Also in Machareti such houses were commonly found beside the dwellings. Figure 16 /see p. 41/ shows such a storehouse. A ladder, which consists of a post provided with notches, leads to the platform (on the right in the figure). These storehouses serve primarily as places to keep the maize crop and other produce. The space under the platform serves for storing various other things. Nordenskiöld saw such houses built on posts, whose upper part served in general for storage, while the lower part was utilized as a dwelling (67). Often these

67. Nord. 1, p. 175; Nord. 2, p. 3.

storehouses are near the plantings far from the dwellings (68).

68. Nord. 1, p. 173.

As shown in Figure 16, the frame for these storehouses consists of ten vertical posts of different lengths, bifurcated at their upper ends to support the horizontal posts that form the base for

/16 cont./

343 the roof and the /Plates V-VII appear here/ /17/ platform.
335 The middle pair of the vertical posts is the longest pair and serves to hold up the ridgepole. Of the other eight vertical posts, always in two, one longer and one shorter, have been placed immediately next to each other all along the two sides of the middle pair of posts and at a certain distance from it. Of the horizontal posts, each one of which is held up by each one of the five pairs of vertical posts, those which are placed on the higher pair and on the two pairs of middle size of the vertical posts serve to hold up the roof, while the two horizontal posts which are placed on the two smaller pairs of vertical posts form the base for the platform of the house. Besides the five pairs of vertical posts that form the frame of the house, there is also added a vertical post of the height of the platform, which serves to support the ladder leading
343 to it. The roof of these storehouses is covered with straw like the roofs of dwellings. The walls are made of reed poles very close together. While the poles of the storehouse illustrated in Figure 16 are horizontal, those of other storehouses, with which we are familiar through Nordenskiöld's photographs and those of v. Ihering and Métraux, are vertical (69). The en-

69. Nord. 1. Figs. 83 and 84 and Pl. 18.
Métraux I. Fig. 9, p. 349.

trance, which must be reached by means of the ladder, is at
[419] the gable end, like that of the dwellings. The ladder consists of a post with notches for steps (70).

70. Cf. Fig. 16, at the right. Nord. 1, Fig. 84. v. Ihering, op. cit., Fig. 191.

[171] [174] There must be some special reason to explain the surprising fact that the Chiriguano have houses built on posts, since it could not be that they brought the custom of constructing them from their native soil, because the Guaraní have
000 never had them. Nor could it be that they adopted this from

[TEXT CONTINUES ON P. 42]

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Plate VII

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Fig. 16
(I.C. 357) -- Chiriguano storehouse built on posts in Machareti

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Fig. 17
(I.C. 355) -- Scene in the Chiriguano town of Machareti. Boy dressed in a poncho. Large baked clay vessels and a mortar.